



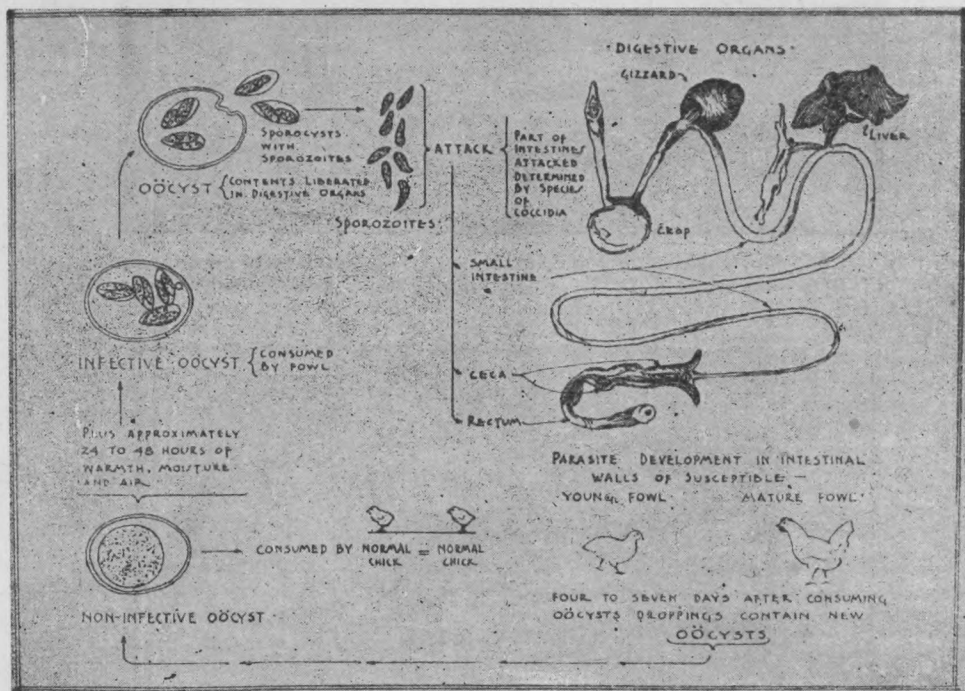
# COCCIDIOSIS

Issued by  
POULTRY BRANCH

Published by the direction of  
HON. D. B. MacMILLAN,  
Minister of Agriculture.

Distributed by  
AGRICULTURAL EXTENSION SERVICE,  
Department of Agriculture.

Coccidiosis is one of the most destructive diseases encountered in our poultry flocks. The disease is widespread and affects turkeys as well as chickens. At least six species of coccidia produce disease in chickens and two produce disease in turkeys. Those which affect chickens, do not affect turkeys, and vice versa.



Infection cycle of Coccidia—about five to eight days required to complete.

—Courtesy of Oregon State Agricultural College.

Many people believe that coccidiosis is an inherited disease and that it is received with the chicks from the hatchery. This is not the case. Coccidiosis is caused by a small microscopic organism that has to be picked up and swallowed by the young bird. This organism then multiplies very rapidly in the digestive tract of the bird, and as it passes from the digestive system, pollutes the litter and ground on which the birds walk, infecting other birds. The disease affects both chickens and turkeys and makes its greatest inroads where we have warmth and moisture. Each year as the weather warms up in the Spring, particularly following showers, we have new outbreaks. It attacks the chicks and poults from the second to the fourteenth weeks, and in some cases even after that time. The disease is in two forms, the chronic form and the acute form.

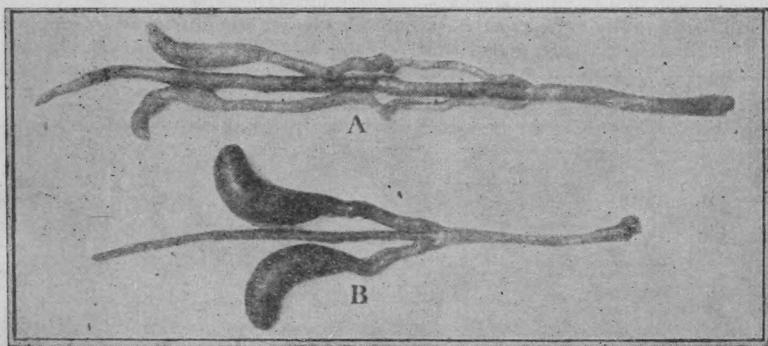
Symptoms: Listlessness, drooping wings, loss of flesh and appetite, paleness of face, beak and shanks, emaciation, blood in the droppings and occasionally paralysis and blindness. Death is sometimes sudden. Chicks huddle together under the brooder or any source of heat.

Post-mortem: A microscopic examination is necessary for definite diagnosis.

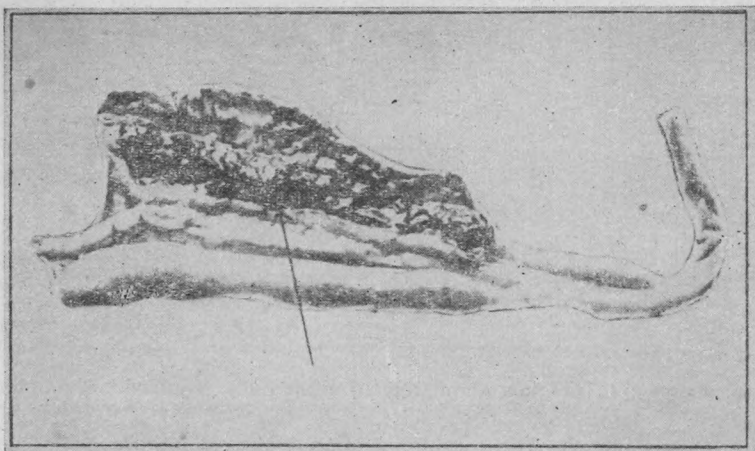
In a post-mortem examination, the intestine and caeca (blind gut) must be opened the entire length.

With the chronic type, the intestines will be found to be inflamed with pin point haemorrhages, and sometimes there is blood in the intestines. Thickened intestinal walls are characteristic. Frequently the intestine breaks apart when handled.

The acute form usually attacks the caeca or blind gut, causing acute haemorrhages, the caeca usually being greatly distended and filled with blood, frequently mixed with a cheesy substance.



(A) Normal caeca or blind intestines. (B) Fatal cecal coccidiosis of a two-months-old fowl. Ceca bulging with pure blood. More often fatal to young fowls than older. The more common severe type.



Cecal coccidiosis of a three-months-old pullet. This is the type of coccidiosis commonly encountered in the brooder house and on the range. One caeca has been cut open to show the bloody content (indicated by the arrow). —Courtesy of the Idaho College of Agriculture.

Prevention: Strict sanitation is the best means of preventing this disease. Brooder and range houses, and all equipment, should be thoroughly cleaned and disinfected before the chicks or poults are placed in them, and they should be kept that way.

Never raise birds on ground over which mature birds have ranged, or where poultry manure has been spread. Never raise chicks in with hens. Chickens and turkeys should not be raised together. Change the ground on which chicks are raised, each year. Fill in mud holes and low spots where water gathers. Since the continuance of the disease depends upon re-infestation, every effort must be made to prevent this, and the above methods assist in preventing re-infestation.

Avoid carrying infection on the feet from old birds to young.

Soil that is contaminated with coccidiosis should be thoroughly cultivated to destroy the parasites. The development of coccidia depends upon warmth and moisture, hence cultivation and the drying of the surface by the sun helps to prevent development and to destroy the parasites in the most vulnerable stage of their life cycle.

**Treatment:** In the past we have recommended that on the first symptoms of the disease the birds should be confined to the house (providing this can be done without crowding), and that they be given either the milk or molasses flushes. The litter should be changed daily and burned and all dead birds should be burned. Kill and burn all listless birds. Although many investigators claim that the milk or molasses flushes are not effective, we have seen this treatment, plus strict sanitation, break the life cycle of the organism with very little mortality.

**Milk Treatment:** Put the birds on a mash consisting of 40 per cent milk powder plus 60 per cent of the chick starter or developing mash being used. If powdered milk is not available, skim milk should be curdled, squeezed dry, and the chicks or poults given all the curd that they can eat with the whey as a drink. Treatment should be continued for ten days, changing and burning the litter each day.

**Molasses Treatment:** This consists of molasses 1½ pounds and flaky wheat bran 8½ pounds. (NOTE: The bran must be flaky and not ground). Thin the molasses with warm water and mix into bran. Feed the bran and molasses the first feed in the morning as soon as blood is seen in the droppings. Exclude all other feeds until noon, then feed usual mash, and feed grain in the evening. Repeat this method of feeding for three days. Clean the house each day and burn the litter, for one week. Keep the house dry and do not use liquid disinfectants on the floor.

**Sulphaguanidine Treatment:** We now have the Sulpha drugs coming into the picture for the control, and possibly for the cure, of this dread poultry disease. Some of this group of drugs are claimed to be a positive cure but their price is prohibitive at the present time. However, one of the Sulpha drugs is proving of great value in the control of this disease. This Sulpha drug is known as "Sulphaguanidine."

This drug comes quite expensive and can only be purchased on prescription from a practicing veterinarian or a medical doctor. It is used at the rate of one pound of the drug to one hundred pounds of chick starter or developing mash.

Some of the feed companies are now using Sulphaguanidine in their starters and developing or growing mash and these are available on short notice.

It is of utmost importance that the medicated mash be used according to instructions, otherwise its use will prove of no value, and as the drug costs from ten to twelve dollars per pound, this money would be entirely wasted. The following are the steps to be taken:

1. On the first signs of blood in the droppings confine the birds to the house.
2. Before burning any dead or sickly birds, these should be opened for post-mortem examination.
3. Obtain the necessary quantity of medicated coccidiosis control mash from your feed company, or if they do not have it available, obtain the necessary amount of the drug through your nearest veterinarian or your medical doctor. It will require about 100 pounds of medicated mash, or one pound of the drug if you are mixing your own feed at home, to complete the treatment for 350 chicks.
4. The medicated feed must be used in the following manner if it is to be effective. As soon as possible remove all feed but the medicated mash from

the birds. Feed medicated mash for 36 hours. Then feed the regular chick starter or developing mash for the next four days. Feed medicated mash for the next 24 hours. Feed regular feed for another four days, and then feed medicated mash for another 24 hours. Eleven days treatment in all. Then allow the birds to go back on their regular mash.

Again let us point out the necessity of getting the birds on this medicated feed with as little delay as possible, and the necessity of following the proper feed instructions, otherwise your money will be wasted and satisfactory results will not be obtained.

It is recommended that the litter should not be changed during this period of treatment in order that the chicks may become infected with the disease. Then the drug will be allowed to break the life cycle of the disease so that the birds can build up an immunity.

Remember that at the present time this drug is not being used as a cure but as a preventive against mortality. The procedure is to allow the birds to become infected, and then have the life cycle of the organism broken so that the birds can build up an immunity.

We do not know yet all that there is to know about the final use of Sulpha drugs in connection with coccidiosis in poultry, but we feel that this one drug used in a one per cent mix, whether mixed at home according to instructions or obtained in the form of a medicated mash from a feed company, is the best prospect that we have at the present time for cutting down the heavy losses that we have been experiencing from this disease.

Let us again emphasize the fact that the use of this Sulpha drug, as far as we know, is wasted if it is used for preventative purposes. It is not a preventative for the disease and should only be used as soon as possible **after** coccidiosis infection has commenced in a flock. Once this disease is diagnosed, then no time should be lost in getting the birds on to the control mash, and the mash must be fed according to instructions. Continuous feeding of the medicated mash does not permit birds to become affected so that the drug can break the life cycle of the disease and allow the birds to build up an immunity. This is a new procedure, but we again emphasize that it must be followed if the disease is to be checked by the use of Sulphaguanidine.

Once the disease has been checked, affected chicks should not be allowed near chicks that have not been infected or near mature birds. It is recommended that it is a good procedure to keep on hand a small quantity of the mash containing half a pound of Sulphaguanidine to one hundred pounds of mash, and that this control mash can be fed once every week, ten days, or two weeks, should there be any suspicion that a few of the birds did not respond to the initial treatment as they should have.

Remember that coccidiosis attacks turkey poults as well as chicks and the same treatment should be followed for coccidiosis in turkeys as recommended for chickens. It is of utmost importance to have a correct diagnosis and after diagnosis has been made immediate steps for the control of coccidiosis must be taken if serious losses are to be avoided.

The cost of treatment varies according to age. It is estimated that it will cost approximately 5 cents per chick and 10 cents per poult for the eleven day treatment.